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The abstract sections of the monthly supplements of *Aeronautical Engineering* can be bound separately. Individual abstracts can be located readily by means of the page numbers given at each entry, e.g., p331 N77-23063. To assist the user in binding Supplements SP-7037 (80) through SP-7037 (91), a title page is included in the back of this Cumulative Index.
A CUMULATIVE INDEX
TO
AERONAUTICAL ENGINEERING
A Special Bibliography

This Cumulative Index supersedes the indexes contained in supplements SP-7037 (80) through SP-7037 (91).
This Index is available from the National Technical Information Service (NTIS), Springfield, Virginia 22161 for $9.00 domestic, $18.00 foreign
INTRODUCTION

WHAT THIS CUMULATIVE INDEX IS

This publication is a cumulative index to the abstracts contained in NASA SP-7037(80) through NASA SP-7037(91) of Aeronautical Engineering A Special Bibliography NASA SP-7037 and its supplements have been compiled through the cooperative efforts of the American Institute of Aeronautics and Astronautics (AIAA) and the National Aeronautics and Space Administration (NASA) Entries prepared by the two contributing organizations are identified as follows

1. NASA entries by their STAR accession numbers (N77-10000 series)
2. AIAA entries by their IAA accession numbers (A77-10000 series)

HOW THIS CUMULATIVE INDEX IS ORGANIZED

This Cumulative Index includes a subject index, a personal author index, a corporate source index, a contract number index, and a report/accession number index

HOW TO USE THE SUBJECT INDEX

Two types of cross-references appear in the subject index

1. Use (U) references indicate that the subject term is not "postable," i.e., not a valid term, and the following term or terms are used instead. For example

   AIRCRAFT PROTUBERANCES
       U PROTUBERANCES
   FLIGHT PERFORMANCE
       U FLIGHT CHARACTERISTICS

2. Narrower Term (NT) references refer the user to more specific headings in the same subject area, under which additional material on the subject may be found. For example

   FLOW RESISTANCE
       NT AERODYNAMIC DRAG
       NT FRICTION DRAG
       NT SUPERSONIC DRAG

In addition, a searcher may use the title or title and title extension in the index to narrow further his quest for particular items. This is because subject terms readily include more than one class of document. For example

   AIRLINE OPERATIONS
       All-weather operations, including pilot role, instrument landing systems and guidance aids
       Airport congestion as constraint on air travel, considering runway capacity and adjusted demand

Illustrates a case where two references on different topics are listed under the same subject term.
HOW TO USE THE PERSONAL AUTHOR INDEX

All personal authors used in the abstract-section citations in the individual Supplements appear in the index. Differences in transliteration schemes may require multiple searching of the index for variants of an author’s name. For example:

EMELIANOV, M D
and
YEMELYANOV, M D

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BOEING CO, SEATTLE, WASH MILITARY AIRCRAFT SYSTEMS DIV

(Source citation entry)

BOEING CO, SEATTLE, WASH

(Source index entry)

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AF 33(615)-71-C-1758
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HOW TO USE THE REPORT/ACCESSION NUMBER INDEX

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IDENTIFICATION OF DESIRED SUPPLEMENT

The abstract and descriptive cataloging for any accession number selected from the indexes may be found in the appropriate Supplement. The page-number range of each Supplement appears on the inside front cover of this index. Once the range of page numbers containing the selected accession number is located in the second column, the desired Supplement number will be found in the first column. For example:

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Some aspects of the development of air traffic control in the United States are discussed, including the integration of automated flight service stations and the use of advanced communication systems.

The Air Traffic Control Evaluation Unit, Burn, is involved in evaluating the performance of new ATC systems and the impact of technology changes on traffic flow.

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Performance of a square law pseudonoise ranging time-of-arrival estimator is evaluated.

The metering system concept for airport tower installation and upper atmosphere measurement programs is described.

The variable geometry combustor is analyzed for its potential impact on aircraft efficiency and emissions.

The variable geometry combustor is analyzed for its potential impact on aircraft efficiency and emissions.

The rotating high pressure water condenser and separator are discussed for their role in improving aircraft performance.

A rotating high pressure water condenser and separator are discussed for their role in improving aircraft performance.

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Developing a cascade thrust reverser

Application of NASA-ABC delayed flap approach procedures to Boeing 727 airplane

More extensive data is available in the following subjects:

- Pressure distributions for a swept wing body configuration obtained from advanced transonic potential flow calculations and boundary layer calculations
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- Estimation at subsonic speeds of the longitudinal and lateral aerodynamic characteristics of wing-body combinations at angles up to 90 deg
- Measures of pressure distribution on a half-model wing-body combination of 55 deg, sweep over a wide range of Reynolds number
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BOBIDIBIBS

BOSOBS

BOBOB-EPOII COBPOOBDS

BOEOB COHPOOHDS

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NT BOBON BOUNDARY LAYER CONTROL

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- Calculation of transonic wing flows by grid embedding
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Wide area illuminator development for US Coast guard K-39 helicopter

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Heat sink structural design concepts for a hypersonic research airplane

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Proposed research capabilities of the NAB Convair 580

Aeromedical evaluation of DH-1 internal advanced aerodynamics configuration development of the hypersonic research airplane

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Aerodynamic evaluation of a 1/6-scale model of the rotor systems research aircraft with the rotors removed

Aerodynamic characteristics of a 1/6-scale model of the rotor systems research aircraft

Aerodynamic characteristics of the NAE Convair Systems Research Aircraft

Aerodynamic characteristics of a 1/6-scale model of the highly maneuverable aircraft technology remotely piloted research vehicle

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Survey of hydrogen energy application projects

The technical basis for a national civil aviation research, technology, and development /RT & D/ policy; Proceedings of the Workshop Conference, Crystal City, Va., March 10-12, 1976

General survey of the studies and testing techniques that led to the definition of NB00 performance
Some measured and calculated effects of a tip vortex modification device on impulsive noise --- for helicopter rotors  
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Experimental study of the aerodynamics of a helicopter rotor in translational flight. Two-dimensional simulation of the effects due to cyclic variations of the velocity vector  
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NT HELICOPTER TAIL ROTORS
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NT LIFTING ROTORS
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Optimum data utilization for parameter identification with application to lifting rotors

Effect of rotor relative diameter on the efficiency of a single-stage axial fan

Radiation characteristics of acoustic sources in circular motion - helicopter noise

Army applications of advanced composites - in Heavy Lift Helicopters

Analysis of the nonstationary aerodynamic characteristics of cascades of arbitrarily shaped profiles

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Supersonic compressors with subsonic and supersonic axial airfoil component

Structural attachment of composite rotor blades - for helicopters

Dynamics of an elastic seesaw rotor

Rotor/generator isolation for wind turbines

A study of feedback, blade and hub parameters on flap bending due to non-uniform rotor disk turbulence

Aeroelastic characteristics of composite bearingless rotor blades

Interaction of the rotor blade shock waves in supersonic compressors with upstream airfoils

A study of feedback, blade and hub parameters on flap bending due to non-uniform rotor disk turbulence

Flap test evaluation of helicopter operational loads and dynamic response characteristics

The investigation of some usual handling characteristics of a light autogiro

An experimental study of the nonlinear stiffness of a rotor blade undergoing flap, lag and twist deformations

Development of erosion resistant claddings for helicopter rotor blades

Bonded field-replaceable rotor blade pocket for the CH-47B. Volume 1: Design study

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Corrosion fatigue behavior of coated 410 stainless steel for blade retention bolts of the AH-16 helicopter

A nondestructive method for instrumenting helicopter rotor blades

Unsteady rotating wake parameters identified from dynamic model tests, part 1

A study of the effect of unsteady aerodynamics on the aerelastic stability of rotor blades

The coupled flap-lag-torsional aerelastic stability of helicopter rotor blades in forward flight

Hover evaluation of circulation control high speed rotor

Analysis and experimental study of turbine rotor blade temperature

Aeroelastic stability of ring arrays of blades with a random dynamic inhomogeneity

An analysis of the nonlinear properties of compressor blade rings in the case of self-excited vibrations

The chances of 'classical' flutter onset in the moving blades of turbines

Determination of aerodynamic damping during torsional vibrations of turbine blades

Certain characteristics of blade oscillations under conditions of rotating distortion

Investigation of oscillations of pockets with a finite number of rotor blades

A supersonic flutter-excitation mechanism for compressor blades

Vibrations in compressor blades exposed to radial irregularity of flow

Nonradial arrangement of turbine guide vanes

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Optimum distribution of material in rotating disks found from strength conditions

Flutter analysis of a cascade of rotor blades

Experimental and theoretical investigations of the aerodynamic damping of turbojet rotor blade vibrations

On the unsteady aerodynamic rotor blade loading in a transonic axial flow compressor with steady-state inlet distortion

Aeroelastic research for turbine blade applications

Experimental data and theoretical analysis of an operating 100 kW wind turbine

Rotor dynamic state and parameter identification from simulated forward flight transients, part 1

Rotor dynamic state and parameter identification from simulated forward flight transients, part 2

Additional experiments with a four-bladed cyclic pitch stirring model rotor, part 2 of second yearly report

Sensitivity of hingeless rotor blade flap-lag stability in hover to analytical modelling assumptions

Early operation experience on the BDA/NASA 100 kW wind turbine -- rotor blade loads

Performance of 1.5-pressure-ratio fan stage at several rotor blade setting angles with reverse flow
The subject index contains the following topics:

- Fire testing of aircraft cabins
- The airport and fire from the airport fire chief's view
- Basic safety concepts in air transportation compared with other travel modes
- The life cycle cost impacts of unsafe designs in aircraft accident accident effects
- Design and evaluation methods for optimizing ejection seat cushions for comfort and safety
- Safety (aerospace material)

The scale models include:

- Application of the Global Positioning System as an attitude reference for near-earth users
- A navigation algorithm for the low-cost GPS receiver
- A comparative performance analysis of modern ground-based, air-based, and satellite-based radio navigation systems
- Preliminary study of NAVSTAR/GPS for general aviation
- Space-based solar power study near completion
- Model for the effect of electric fields on satellite-earth microwave radio propagation
- A model for wind-tunnel rotorcraft research - Model design and test objectives

The book covers a variety of topics including:

- A navigation algorithm for the low-cost GPS receiver
- A comparative performance analysis of modern ground-based, air-based, and satellite-based radio navigation systems
- Preliminary study of NAVSTAR/GPS for general aviation
- Space-based solar power study near completion
- A model for wind-tunnel rotorcraft research - Model design and test objectives

Additional topics include:

- Frameworks for aerospace navigation: Proceedings of the 20th annual National Aerospace
- Satellites & Satellites
- Scale models

The scale models discuss:

- Large-scale V/STOL testing in wind tunnels
- Surface fluctuating pressure measurements on a 1/4-scale TC-14 boilerplate model
- Tenth-scale powered model test of a tilt-rotor V/STOL airplane
- A 1/20th scale millimeter model for microwave landing systems

The book includes papers on:

- Wind tunnel tests of a 1/10-scale model of the space shuttle orbiter in the 0.01 scale model (13-0) of the space shuttle orbiter in the 0.01 scale model (13-0)
- Effects of spoilers and gear on B-717 wake vortex velocities
- Low speed wind tunnel tests of 1/10-scale model of a blended-wingbody supersonic cruise aircraft
- Aerodynamic performance of a 0.046-scale model of an M600 turbofan stage with S-duct inlet
SCAFFOLD 

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- On the works of S. S. Nezhansky in the field of flight based on reactive principles, 1880 - 1895 

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- Water motion relationships study 

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- A modern technology - Open-ocean seaplane design 
- Spin tests of 1/16-scale models of the N3N-1 landplane and seaplane, 12 January 1940 

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- Reducing secondary losses by blowing cold air in a turbine 

SECONDARY SURVEILLANCE 
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SECONDARY SURVEILLANCE RADAR
Pressure distributions on a 1- by 3-meter semispan 
A semi-empirical correction for the vortex core 
Evaluation of augmenter light-off detection systems 
Self-correcting control for a turbofan engine 
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Self induction vibration 
Self lubricating materials 
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- **Cold air performance of a tip turbine designed to drive a lift fan.**
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The text is formatted in a list with bullet points, indicating a variety of research papers and abstracts. The document seems to be a collection of works related to turbomachinery and gas turbine technology, possibly from a conference or a series of journal articles.
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**A Special Bibliography**

**Abstracts**

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